WHAT IS CLAIMED IS:

1. A method, comprising:

providing a printed circuit board having a plurality of optoelectronic components coupled to a first side of the printed circuit board;

forming a first clad layer outwardly from the first side of the printed circuit board;

coupling an injection molding mold to the first side of the printed circuit board;

injecting a material into the mold in liquid form; and

after the material is solidified, decoupling the injection molding mold from the first side of the printed circuit board, thereby forming an optical waveguide outwardly from the first clad layer.

2. The method of Claim 1, further comprising forming a second clad layer outwardly from the optical waveguide.

3. The method of Claim 2, further comprising forming a metal layer outwardly from the second clad layer.

4. The method of Claim 1, wherein the printed circuit board is a flex circuit.

5. The method of Claim 1, further comprising causing one or more contact pads formed on the printed circuit board to be exposed after the forming of the first clad layer and the optical waveguide.

6. The method of Claim 1, wherein coupling the injection molding mold to the first side of the printed circuit board comprises coupling the injection molding mold to a plurality of alignment holes formed in the printed circuit board.

7. A method, comprising:

providing a printed circuit board having a plurality of optoelectronic components coupled to a first side of the printed circuit board;

forming a first clad layer outwardly from the first side and a second side of the printed circuit board;

encapsulating a portion of the printed circuit board with an injection molding mold;

injecting a polymer into the mold in liquid form; and

after the polymer solidifies, decoupling the injection molding mold from the first and second sides of the printed circuit board., thereby forming an optical waveguide on the first side of the printed circuit board and a polymer layer on the second side of the printed circuit board

8. The method of Claim 7, further comprising forming a second clad layer outwardly from the optical waveguide and the polymer layer.

9. The method of Claim 8, further comprising forming a metal layer outwardly from the second clad layer.

10. The method of Claim 7, wherein the printed circuit board is a flex circuit.

11. The method of Claim 7, further comprising causing one or more contact pads formed on the printed circuit board to be exposed after the forming of the first clad layer and the optical waveguide.

12. The method of Claim 7, further comprising coupling the injection molding mold to a plurality of alignment holes formed in the printed circuit board.

13. A printed circuit board, comprising:

a substrate;

a plurality of metal traces associated with the substrate;

a plurality of optoelectronic components formed on a first side of the substrate;

a first clad layer formed outwardly from, and encapsulating, the optoelectronic components;

a second clad layer formed outwardly from a second side of the substrate;

a plurality of optical waveguides formed outwardly from the first clad layer, the optical waveguides coupling respective pairs of optoelectronic components; and

a polymer layer formed outwardly from the second clad layer.

14. The printed circuit board of Claim 13, further comprising:

a third clad layer formed outwardly from the optical waveguides;

a fourth clad layer formed outwardly from the polymer layer;

a first metal layer formed outwardly from the third clad layer; and

a second metal layer formed outwardly from the fourth clad layer.

15. The printed circuit board of Claim 13, wherein the substrate is formed from a polyimide.

16. The printed circuit board of Claim 13, wherein the optical waveguides have a substantially planar top, a substantially planar bottom, and ends that are formed at an angle of approximately 45 degrees to the vertical.

17. The printed circuit board of Claim 13, further comprising a plurality of contact pads associated with at least some of the metal traces, the contact pads

existing around a perimeter of the substrate and exposed to the environment after the formed of the optical waveguides.

18. The printed circuit board of Claim 13, wherein the first and second clad layers are formed from a material having substantially the same coefficient of thermal expansion.

19. The printed circuit board of Claim 13, wherein the optical waveguides and the polymer layer are formed from a material having substantially the same coefficient of thermal expansion.

20. The printed circuit board of Claim 13, wherein the first clad layer has a planarity of less than one micron per five linear inches.

21. A method, comprising:

providing a printed circuit board having a plurality of optoelectronic components coupled to a first side of the printed circuit board;

forming a first clad layer outwardly from the first side of the printed circuit board;

forming a first optical core layer outwardly from the first clad layer; and

stamping the first optical core layer to form an optical waveguide outwardly from the first clad layer.

22. The method of Claim 21, further comprising forming a second clad layer outwardly from the optical waveguide.

23. The method of Claim 22, further comprising forming a metal layer outwardly from the second clad layer.

24. The method of Claim 21, wherein the printed circuit board is a flex circuit.